

ABSTRACT OF THE DISCLOSURE

The invention relates to a fuel cell and an electrochemical cell comprising a curable protonic polymer based electrolyte composition. The electrolyte composition comprises between 10 wt% and 50 wt% of a protonic polymer comprising acidic groups for transporting protons; between 10
5 wt% and 89 wt% of a monomer for dissolving the protonic polymer; between 1 wt% and 60 wt% of a cross linking agent having at least two vinyl functionalities; and wherein upon combining the protonic polymer, monomer and cross linking agent, a curable electrolyte solution is formed with at least 50 wt% of the above components based on the total weight percent of the formed solution. The invention relates to a method for producing the curable liquid electrolyte.